

Work Order ID 148893

Tuesday, July 12, 2016 8:53:30 AM

148893

Page 1

Item ID: D3500-1

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Saddle

Start Date: 7/4/2016 Start Qty: 12.00

12

Cust Item ID:

Required Date: 7/12/2016 Req'd Qty: 12.00

12

Customer:

Reference:

Approvals: Process Plan: **DAS 21 9-89** Date: **JUL 13 2016**

Tooling:

Date:

Run Start

NR1

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D3500	C

100

0.03

100

HAAS CNC VERTICAL MACHINING #1

HAAS 1

Memo

0.42

HAAS CNC vertical machine #1

Program Batch No. **148893** Double check by: **OK** 1-Machine Step No 1
per Folio FA641 and inspect per attached Dimension Sheets2-Machine Step
No 2 per Folio FA641 and inspect per attached Dimension Sheets3-Machine
Step No 3 per Folio FA641 and inspect p**12****DAS 14 9-89**
16/09/18

110

0.00

110

QC

Quality Control

QC1- Inspection performed by CMM

Memo

0.02

Inspect on CMM as per folio CMMA031.
DWG REV: _____
CMM PROG. REV: _____**12****DAS 14 9-89****16/09/18**

120

0.00

120

QC

Quality Control

QC8- Inspect parts - second check

Memo

0.04

12**DAS 45 9-89****2016-9-19**

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

Work Order ID 148893

Tuesday, July 12, 2016 8:53:30 AM

148893

Page 2

Item ID: D3500-1

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Saddle

Start Date: 7/4/2016

Start Qty: 12.00

12

Cust Item ID:

Required Date: 7/12/2016

Req'd Qty: 12.00

12

Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start

NR1

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

130

Chemical Conversion Coat per QSI005 4.1

0.00

130

HandFinish

Memo

0.06

Hand Finishing

(X12)**✓****2016/09/19
BEB**

140

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00

140

Powdercoat

Memo

0.06

Powder Coating

START TIME:

9:10

OVEN TEMPERATURE:

FINISH TIME:

9:10**12 ✓ 10-09-20****DAS 34 9-89**

150

QC3- Inspect Part Finish

0.00

150

QC

Memo

0.02

Quality Control

(12)**DAS
38
9-89****SEP 20 2016**

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER :					

Work Order ID 148893

Tuesday, July 12, 2016 8:53:30 AM

148893

Page 3

Item ID: D3500-1

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Saddle

Start Date: 7/4/2016 Start Qty: 12.00

12

Cust Item ID:

Required Date: 7/12/2016 Req'd Qty: 12.00

12

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	Identify as per dwg & Stock Location <i>St406</i>	0.00							
160									
Packaging	Memo	0.02							
Packaging									
170	QC21- Final Inspection - Work Order Release	0.00							
170									
QC	Memo	0.20							
Quality Control									

12
SEP 23 2016DAS
21
9-89DAS
21
9-89

SEP 23 2016

DAS
21
9-89

SEP 23 2016

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval 	
Description Work Order Deviation		Disposition			
				Completed By _____	
				Lead hand / Supervisor Approval Verification _____	
				QC / QA Coordinator Approval _____	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

Picklist Print

Tuesday, July 12, 2016 8:53:29 AM

Page 1

Work Order ID: 148893

148893

Parent Item: D3500-1

D3500-1

Parent Item Name: Saddle

Start Date: 7/4/2016

Required Date: 7/12/2016

Start Qty: 12.00

Required Qty: 12.00

Comments: IPP Rev:A New Issue 06-06-15 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6102-013		Manufactured	No			100	Each	29.0000	1	12			

D6102-013

Saddle Billet

Location

Loc Qty

Loc Code

MAT046

29

144498

9

147083

20

mk
16/09/18

12

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

DART AEROSPACE LTD				Work Order: 148893	
Description: Saddle				Part Number: D3500-1	
Inspection Dwg: D3500 Rev: C DSK: Rev:				Page 1 of 1	

FIRST ARTICLE INSPECTION DIMENSION SHEET

Dim	Min	Max	Go/No Go Gauge	Record Actual Dimensions				
				1	2	3	4	5
A	0.483	0.490		.487	.487	.487	.487	.487
B	1.175	1.185		1.180	1.180	1.180	1.180	1.180
C	3.145	3.155		3.150	3.150	3.150	3.150	3.150
D	1.175	1.185		1.180	1.180	1.180	1.180	1.180
E	0.365	0.385		.375	.375	.375	.375	.375
F	0.490	0.510		.500	.500	.500	.500	.500
H	R0.515	R0.535		.525	.525	.525	.525	.525
(Note: Dimension I is 0.015" over flange)								
I	R1.575	R1.595		1.585	1.585	1.585	1.585	1.585
J	0.240	0.260		.250	.250	.250	.250	.250
K	0.490	0.510		.500	.500	.500	.500	.500
L	3.590	3.650		3.620	3.620	3.620	3.620	3.620
M	0.315	0.322		.316	.316	.316	.316	.316
N	0.256	0.262		.258	.258	.258	.258	.258
O	6.500	6.520		6.510	6.510	6.510	6.510	6.510
P	5.990	6.010		6.000	6.000	6.000	6.000	6.000
Q	2.820	2.830		2.825	2.825	2.825	2.825	2.825
R	2.495	2.505		2.500	2.500	2.500	2.500	2.500
S	2.245	2.255		2.250	2.250	2.250	2.250	2.250
T	1.120	1.130		1.125	1.125	1.125	1.125	1.125
U	0.540	0.560		.500	.500	.500	.500	.500
V	0.793	0.803		.798	.798	.798	.798	.798
W	R.240	R.260		.250	.250	.250	.250	.250
X	0.040	0.060		.050	.050	.050	.050	.050
Y	0.100	0.120		.110	.110	.110	.110	.110
AA	R1.125	R1.145		1.133	1.135	1.135	1.135	1.135
AB	R.490	R.510		.500	.500	.500	.500	.500
AC	0.615	0.635		.625	.625	.625	.625	.625
AD	0.240	0.260		.251	.251	.250	.251	.251
AE	1.810	1.830		1.821	1.821	1.821	1.821	1.821
AF	0.240	0.260		.254	.250	.254	.254	.254
AG	0.140	0.160		.152	.152	.152	.152	.152
AH	0.140	0.160		.151	.152	.152	.153	.153
AI	0.140	0.160		.147	.148	.149	.149	.149

Accept ☒ Reject ☐

Measured by: MK 14 9-39	Date: 16/09/18
Audited by: DAS	Date: 2016-9-19
Preliminary Approval: 45	Date:

Rev	Date	Change	Revised by	Approved
A	06.09.26	New Issue	KJ/EC	
B	08.10.07	Dimension H removed	KJ/DD	
C	08.11.28	Dimension 'M' revised	KJ/EC	
D	11.01.17	Note added to Dim I	KJ	
E	15.02.26	Dimension H added	KJ	

DART AEROSPACE LTD				Work Order: 148893	
Description: Saddle				Part Number: D3500-1	
Inspection Dwg: D3500 Rev: C DSK: Rev:				Page 1 of 1	

FIRST ARTICLE INSPECTION DIMENSION SHEET

Dim	Min	Max	Go/No Go Gauge	Record Actual Dimensions				
				16	17	18	19	110
A	0.483	0.490		.487	.487	.487	.487	.487
B	1.175	1.185		1.180	1.180	1.180	1.180	1.180
C	3.145	3.155		3.150	3.150	3.150	3.150	3.150
D	1.175	1.185		1.180	1.180	1.180	1.180	1.180
E	0.365	0.385		.375	.375	.375	.375	.375
F	0.490	0.510		.500	.500	.500	.500	.500
H	R0.515	R0.535		.525	.525	.525	.525	.525
(Note: Dimension I is 0.015" over flange)								
I	R1.575	R1.595		1.585	1.585	1.585	1.585	1.585
J	0.240	0.260		.250	.251	.250	.250	.250
K	0.490	0.510		.500	.500	.500	.500	.500
L	3.590	3.650		3.620	3.620	3.620	3.620	3.620
M	0.315	0.322		.316	.316	.316	.316	.316
N	0.256	0.262		.258	.258	.258	.258	.258
O	6.500	6.520		6.510	6.510	6.510	6.510	6.510
P	5.990	6.010		6.000	6.000	6.000	6.000	6.000
Q	2.820	2.830		2.825	2.825	2.825	2.825	2.825
R	2.495	2.505		2.500	2.500	2.500	2.500	2.500
S	2.245	2.255		2.250	2.250	2.250	2.250	2.250
T	1.120	1.130		1.125	1.125	1.125	1.125	1.125
U	0.540	0.560		.550	.550	.550	.550	.550
V	0.793	0.803		.798	.798	.798	.798	.798
W	R.240	R.260		.250	.250	.250	.250	.250
X	0.040	0.060		.050	.050	.050	.050	.050
Y	0.100	0.120		.110	.110	.110	.110	.110
AA	R1.125	R1.145		1.135	1.135	1.135	1.135	1.135
AB	R.490	R.510		.500	.500	.500	.500	.500
AC	0.615	0.635		.625	.625	.625	.625	.625
AD	0.240	0.260		.254	.255	.255	.255	.255
AE	1.810	1.830		1.821	1.821	1.821	1.821	1.822
AF	0.240	0.260		.251	.251	.250	.250	.250
AG	0.140	0.160		.151	.151	.151	.151	.151
AH	0.140	0.160		.153	.151	.151	.154	.153
AI	0.140	0.160		.149	.149	.149	.150	.149

Accept/Reject

Measured by: <i>myr</i> 14	Date: 12/09/18
Audited by: DAS 9-89	Date: 2010-9-19
Preliminary Approval: 45 9-89	Date:

Rev	Date	Change	Revised by	Approved
A	06.09.26	New Issue	KJ/EC	
B	08.10.07	Dimension H removed	KJ/DD	
C	08.11.28	Dimension 'M' revised	KJ/EC	
D	11.01.17	Note added to Dim I	KJ	
E	15.02.26	Dimension H added	KJ	<i>[Signature]</i>

DART AEROSPACE LTD				Work Order: 148893	
Description: Saddle				Part Number: D3500-1	
Inspection Dwg: D3500 Rev: C DSK: Rev:				Page 1 of 1	

FIRST ARTICLE INSPECTION DIMENSION SHEET

Dim	Min	Max	Go/No Go Gauge	Record Actual Dimensions				
				11	12	3	4	5
A	0.483	0.490		.487	.487			
B	1.175	1.185		1.180	1.180			
C	3.145	3.155		3.150	3.150			
D	1.175	1.185		1.180	1.180			
E	0.365	0.385		.375	.375			
F	0.490	0.510		.500	.500			
H	R0.515	R0.535		.525	.525			
(Note: Dimension I is 0.015" over flange)								
I	R1.575	R1.595		1.585	1.585			
J	0.240	0.260		.250	.250			
K	0.490	0.510		.500	.500			
L	3.590	3.650		3.620	3.620			
M	0.315	0.322		.316	.316			
N	0.256	0.262		.258	.258			
O	6.500	6.520		6.510	6.510			
P	5.990	6.010		6.000	6.000			
Q	2.820	2.830		2.825	2.825			
R	2.495	2.505		2.500	2.500			
S	2.245	2.255		2.250	2.250			
T	1.120	1.130		1.125	1.125			
U	0.540	0.560		.550	.550			
V	0.793	0.803		.798	.798			
W	R.240	R.260		.250	.250			
X	0.040	0.060		.050	.050			
Y	0.100	0.120		.110	.110			
AA	R1.125	R1.145		1.135	1.135			
AB	R.490	R.510		.500	.500			
AC	0.615	0.635		.625	.625			
AD	0.240	0.260		.250	.250			
AE	1.810	1.830		1.821	1.822			
AF	0.240	0.260		.254	.254			
AG	0.140	0.160		.151	.151			
AH	0.140	0.160		.154	.154			
AI	0.140	0.160		.150	.150			

Accept/Reject

Measured by: <i>ML</i> 14 9-89	Date: 16/09/19
Audited by: DAS	Date: 20/09/19
Preliminary Approval: 45 9-89	Date:

Rev	Date	Change	Revised by	Approved
A	06.09.26	New Issue	KJ/EC	
B	08.10.07	Dimension H removed	KJ/DD	
C	08.11.28	Dimension 'M' revised	KJ/EC	
D	11.01.17	Note added to Dim I	KJ	
E	15.02.26	Dimension H added	KJ	<i>[Signature]</i>

